



Complete Summary

TITLE

Incidental appendectomy: incidental appendectomy among the elderly rate.

SOURCE(S)

AHRQ quality indicators. Guide to inpatient quality indicators: quality of care in hospitals - volume, mortality, and utilization [version 3.1]. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2007 Mar 12. 91 p.

AHRQ quality indicators. Inpatient quality indicators: technical specifications [version 3.2]. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2008 Feb 29. 37 p.

Measure Domain

PRIMARY MEASURE DOMAIN

Process

The validity of measures depends on how they are built. By examining the key building blocks of a measure, you can assess its validity for your purpose. For more information, visit the [Measure Validity](#) page.

SECONDARY MEASURE DOMAIN

Does not apply to this measure

Brief Abstract

DESCRIPTION

This measure is used to assess the number of incidental appendectomies per 100 elderly with intra-abdominal procedure.

As a utilization indicator, the construct validity relies on the actual inappropriate use of procedures in hospitals with high rates, which should be investigated further.

RATIONALE

About 30% of personal health care expenditures in the United States go towards hospital care, and the rate of growth in spending for hospital services has only

recently leveled out after several years of increases following a half a decade of declining growth. Simultaneously, concerns about the quality of health care services have reached a crescendo with the Institute of Medicine's series of reports describing the problem of medical errors and the need for a complete restructuring of the health care system to improve the quality of care. Policymakers, employers, and consumers have made the quality of care in U.S. hospitals a top priority and have voiced the need to assess, monitor, track, and improve the quality of inpatient care.

Removal of the appendix incidental to other abdominal surgery--such as urological, gynecological, or gastrointestinal surgeries--is intended to eliminate the risk of future appendicitis and to simplify any future differential diagnoses of abdominal pain. Incidental appendectomy among the elderly is contraindicated. As such, lower rates represent better quality.

Note:

The following caveats were identified from the literature review for the "Incidental Appendectomy in Elderly Rate" indicator:

- *Unclear construct^a*: There is uncertainty or poor correlation with widely accepted process measures.
- *Easily manipulated^a*: Use of the indicator may create perverse incentives to improve performance on the indicator without truly improving quality of care.

Refer to the original measure documentation for further details.

a - The concern is theoretical or suggested, but no specific evidence was found in the literature.

PRIMARY CLINICAL COMPONENT

Incidental appendectomy

DENOMINATOR DESCRIPTION

All discharges, age 65 years and older, with intra-abdominal procedure

Exclude cases:

- Major Diagnostic Category (MDC) 14 (pregnancy, childbirth, and puerperium)
- MDC 15 (newborns and other neonates)

Note: Refer to the Technical Specifications document for specific Diagnosis-Related Groups (DRGs) codes.

NUMERATOR DESCRIPTION

Number of incidental appendectomies (any procedure field) among cases meeting the inclusion and exclusion rules for the denominator

Note: Refer to the Technical Specifications document for specific International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) codes.

Evidence Supporting the Measure

EVIDENCE SUPPORTING THE CRITERION OF QUALITY

- A clinical practice guideline or other peer-reviewed synthesis of the clinical evidence
- One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

Evidence Supporting Need for the Measure

NEED FOR THE MEASURE

Variation in quality for the performance measured

EVIDENCE SUPPORTING NEED FOR THE MEASURE

AHRQ quality indicators. Guide to inpatient quality indicators: quality of care in hospitals - volume, mortality, and utilization [version 3.1]. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2007 Mar 12. 91 p.

State of Use of the Measure

STATE OF USE

Current routine use

CURRENT USE

External oversight/State government program
Internal quality improvement
Quality of care research

Application of Measure in its Current Use

CARE SETTING

Hospitals

PROFESSIONALS RESPONSIBLE FOR HEALTH CARE

Physicians

LOWEST LEVEL OF HEALTH CARE DELIVERY ADDRESSED

Single Health Care Delivery Organizations

TARGET POPULATION AGE

Age greater than or equal to 65 years

TARGET POPULATION GENDER

Either male or female

STRATIFICATION BY VULNERABLE POPULATIONS

Unspecified

Characteristics of the Primary Clinical Component

INCIDENCE/PREVALENCE

Unspecified

ASSOCIATION WITH VULNERABLE POPULATIONS

Incidental appendectomy is contraindicated in the elderly population, because this population has both a lower risk for developing appendicitis and a higher risk of postoperative complications. See also "Burden of Illness" field.

EVIDENCE FOR ASSOCIATION WITH VULNERABLE POPULATIONS

AHRQ quality indicators. Guide to inpatient quality indicators: quality of care in hospitals - volume, mortality, and utilization [version 3.1]. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2007 Mar 12. 91 p.

BURDEN OF ILLNESS

Andrew and Roty showed that incidental appendectomy was associated with a higher risk of wound infection (5.9% versus 0.9%) among cholecystectomy patients who were at least 50 years of age, but not among younger patients. Based on this finding and the findings of Warren and colleagues, the risk of incidental appendectomy is believed to outweigh the benefits for elderly patients.

EVIDENCE FOR BURDEN OF ILLNESS

Andrew MH, Roty AR Jr. Incidental appendectomy with cholecystectomy: is the increased risk justified. Am Surg 1987 Oct;53(10):553-7. [PubMed](#)

Fisher KS, Ross DS. Guidelines for therapeutic decision in incidental appendectomy. Surg Gynecol Obstet 1990 Jul;171(1):95-8. [27 references] [PubMed](#)

Nockerts SR, Detmer DE, Fryback DG. Incidental appendectomy in the elderly? No. Surgery 1980 Aug;88(2):301-6. [PubMed](#)

Snyder TE, Selanders JR. Incidental appendectomy--yes or no? A retrospective case study and review of the literature. Infect Dis Obstet Gynecol 1998;6(1):30-7. [22 references] [PubMed](#)

Warren JL, Penberthy LT, Addiss DG, McBean AM. Appendectomy incidental to cholecystectomy among elderly Medicare beneficiaries. Surg Gynecol Obstet 1993 Sep;177(3):288-94. [PubMed](#)

Wolff BG. Current status of incidental surgery. Dis Colon Rectum 1995 Apr;38(4):435-41. [29 references] [PubMed](#)

UTILIZATION

Unspecified

COSTS

Unspecified

Institute of Medicine National Healthcare Quality Report Categories

IOM CARE NEED

Staying Healthy

IOM DOMAIN

Safety

Data Collection for the Measure

CASE FINDING

Users of care only

DESCRIPTION OF CASE FINDING

Discharges, age 65 years and older, who had an intra-abdominal procedure (see the "Denominator Inclusions/Exclusions" field)

DENOMINATOR SAMPLING FRAME

Patients associated with provider

DENOMINATOR INCLUSIONS/EXCLUSIONS

Inclusions

All discharges, age 65 years and older, with intra-abdominal procedure

Note: Refer to the Technical Specifications document for specific Diagnosis-Related Groups (DRGs) codes.

Exclusions

Exclude cases:

- Major Diagnostic Category (MDC) 14 (pregnancy, childbirth, and puerperium)
- MDC 15 (newborns and other neonates)

RELATIONSHIP OF DENOMINATOR TO NUMERATOR

All cases in the denominator are equally eligible to appear in the numerator

DENOMINATOR (INDEX) EVENT

Institutionalization
Therapeutic Intervention

DENOMINATOR TIME WINDOW

Time window is a single point in time

NUMERATOR INCLUSIONS/EXCLUSIONS

Inclusions

Number of incidental appendectomies (any procedure field) among cases meeting the inclusion and exclusion rules for the denominator

Note: Refer to the Technical Specifications document for specific International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) codes.

Exclusions

Unspecified

MEASURE RESULTS UNDER CONTROL OF HEALTH CARE PROFESSIONALS, ORGANIZATIONS AND/OR POLICYMAKERS

The measure results are somewhat or substantially under the control of the health care professionals, organizations and/or policymakers to whom the measure applies.

NUMERATOR TIME WINDOW

Institutionalization

DATA SOURCE

Administrative data

LEVEL OF DETERMINATION OF QUALITY

Individual Case

PRE-EXISTING INSTRUMENT USED

Unspecified

Computation of the Measure

SCORING

Rate

INTERPRETATION OF SCORE

Better quality is associated with a lower score

ALLOWANCE FOR PATIENT FACTORS

Analysis by subgroup (stratification on patient factors, geographic factors, etc.)
Risk adjustment method widely or commercially available

DESCRIPTION OF ALLOWANCE FOR PATIENT FACTORS

Observed (raw) rates may be stratified by hospitals, age groups, race/ethnicity categories, sex, and payer categories.

Risk adjustment of the data is recommended using, at minimum, age, sex, and 3M™ All-Patient Refined Diagnosis-Related Groups (APR-DRGs).

Application of multivariate signal extraction (MSX) to smooth risk adjusted rates is also recommended.

***Note:** Information on the 3M™ APR-DRG system is available at
http://www.3m.com/us/healthcare/his/products/coding/refined_drq.jhtml.

STANDARD OF COMPARISON

External comparison at a point in time
External comparison of time trends
Internal time comparison

Evaluation of Measure Properties

EXTENT OF MEASURE TESTING

Each potential quality indicator was evaluated against the following six criteria, which were considered essential for determining the reliability and validity of a quality indicator: face validity, precision, minimum bias, construct validity, fosters real quality improvement, and application. The project team searched Medline for

articles relating to each of these six areas of evaluation. Additionally, extensive empirical testing of all potential indicators was conducted using the 1995-97 Healthcare Cost and Utilization Project (HCUP) State Inpatient Databases (SID) and Nationwide Inpatient Sample (NIS) to determine precision, bias, and construct validity. Table 2 in the original measure documentation summarizes the results of the literature review and empirical evaluations on the Inpatient Quality Indicators. Refer to the original measure documentation for details.

EVIDENCE FOR RELIABILITY/VALIDITY TESTING

AHRQ quality indicators. Guide to inpatient quality indicators: quality of care in hospitals - volume, mortality, and utilization [version 3.1]. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2007 Mar 12. 91 p.

Identifying Information

ORIGINAL TITLE

Incidental appendectomy in the elderly rate (IQI 24).

MEASURE COLLECTION

[Agency for Healthcare Research and Quality \(AHRQ\) Quality Indicators](#)

MEASURE SET NAME

[Agency for Healthcare Research and Quality \(AHRQ\) Inpatient Quality Indicators](#)

DEVELOPER

Agency for Healthcare Research and Quality

FUNDING SOURCE(S)

Agency for Healthcare Research and Quality (AHRQ)

COMPOSITION OF THE GROUP THAT DEVELOPED THE MEASURE

The Agency for Healthcare Research and Quality (AHRQ) Quality Indicators are in the public domain and the specifications come from multiple sources, including the published and unpublished literature, users, researchers, and other organizations. AHRQ as an agency is responsible for the content of the indicators.

FINANCIAL DISCLOSURES/OTHER POTENTIAL CONFLICTS OF INTEREST

None

ENDORSER

ADAPTATION

Incidental appendectomy in the elderly is a provider-level utilization indicator in the original Healthcare Cost and Utilization Project Quality Indicator (HCUP QI) set.

PARENT MEASURE

Incidental appendectomy among elderly (Agency for Healthcare Research and Quality)

RELEASE DATE

2002 Jun

REVISION DATE

2008 Feb

MEASURE STATUS

This is the current release of the measure.

This measure updates previous versions:

- AHRQ quality indicators. Guide to inpatient quality indicators: quality of care in hospitals -- volume, mortality, and utilization [version 3.0]. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2006 Feb 20. 99 p.
- AHRQ quality indicators. Inpatient quality indicators: technical specifications [version 3.1]. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2007 Mar 12. 37 p.

SOURCE(S)

AHRQ quality indicators. Guide to inpatient quality indicators: quality of care in hospitals - volume, mortality, and utilization [version 3.1]. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2007 Mar 12. 91 p.

AHRQ quality indicators. Inpatient quality indicators: technical specifications [version 3.2]. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2008 Feb 29. 37 p.

MEASURE AVAILABILITY

The individual measure, "Incidental Appendectomy in the Elderly Rate (IQI 24)," is published in "AHRQ Quality Indicators. Guide to Inpatient Quality Indicators: Quality of Care in Hospitals -- Volume, Mortality, and Utilization" and "AHRQ Quality Indicators. Inpatient Quality Indicators: Technical Specifications." These

documents are available in Portable Document Format (PDF) from the [Inpatient Quality Indicators Download](#) page at the Agency for Healthcare Research and Quality (AHRQ) Quality Indicators Web site.

For more information, please contact the QI Support Team at support@qualityindicators.ahrq.gov.

COMPANION DOCUMENTS

The following are available:

- AHRQ quality indicators. Inpatient quality indicators: software documentation, SAS [version 3.2]. 2008 Mar 10: Agency for Healthcare Research and Quality (AHRQ); 2008 Mar 10. 43 p. This document is available in Portable Document Format (PDF) from the [Agency for Healthcare Research and Quality \(AHRQ\) Quality Indicators Web site](#).
- AHRQ quality indicators. Software documentation: Windows [version 3.2]. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2008 Mar 10. 99 p. This document is available in PDF from the [AHRQ Quality Indicators Web site](#).
- Inpatient quality indicators (IQI): covariates, version 3.1. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2007 Mar 12. 29 p. This document is available in PDF from the [AHRQ Quality Indicators Web site](#).
- Inpatient quality indicators (IQI): covariates (with POA), version 3.1. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2007 Mar 12. 29 p. This document is available in PDF from the [AHRQ Quality Indicators Web site](#).
- Remus D, Fraser I. Guidance for using the AHRQ quality indicators for hospital-level public reporting or payment. Rockville (MD): Agency for Healthcare Research and Quality; 2004 Aug. 24 p. This document is available in PDF from the [AHRQ Quality Indicators Web site](#).
- AHRQ summary statement on comparative hospital public reporting. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2005 Dec. 1 p. This document is available in PDF from the [AHRQ Quality Indicators Web site](#).
- Guidance for using the AHRQ quality indicators for public reporting or payment - appendix A: current uses of AHRQ quality indicators and considerations for hospital-level reporting. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2005 Dec. A1-13 p. This document is available in PDF from the [AHRQ Quality Indicators Web site](#).
- Guidance for using the AHRQ quality indicators for public reporting or payment - appendix B: public reporting evaluation framework--comparison of recommended evaluation criteria in five existing national frameworks. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2005 Dec. B1-4 p. This document is available in PDF from the [AHRQ Quality Indicators Web site](#).
- AHRQ inpatient quality indicators - interpretive guide. Irving (TX): Dallas-Fort Worth Hospital Council Data Initiative; 2002 Aug 1. 9 p. This guide helps you to understand and interpret the results derived from the application of the Inpatient Quality Indicators software to your own data and is available in PDF from the [AHRQ Quality Indicators Web site](#).
- UCSF-Stanford Evidence-based Practice Center. Davies GM, Geppert J, McClellan M, et al. Refinement of the HCUP quality indicators. Rockville (MD):

- Agency for Healthcare Research and Quality (AHRQ); 2001 May. 24 p. (Technical review; no. 4). This document is available in PDF from the [AHRQ Quality Indicators Web site](#).
- HCUPnet. [internet]. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2004 [accessed 2007 May 21]. [Various pagings]. HCUPnet is available from the [AHRQ Web site](#). See the related [QualityTools](#) summary.

NQMC STATUS

This NQMC summary was completed by ECRI on December 4, 2002. The information was verified by the Agency for Healthcare Research and Quality on December 26, 2002. This NQMC summary was updated by ECRI on April 7, 2004, August 19, 2004, and March 4, 2005. The information was verified by the measure developer on April 22, 2005. This NQMC summary was updated again by ECRI Institute on August 17, 2006, on May 29, 2007, and again on October 20, 2008.

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